Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

remained until his death, December 18, 1911. The garden was presented to the French government for a scientific station.

Bornet's scientific reputation rests mainly on his work on algae and lichens. He was a skilful artist and a writer whose style was remarkable for its clearness and elegance as is shown by the now classical works, Etudes Phycologiques, 1878, and Notes Algologiques, 1876–1880. In the Recherches sur la Fécondation des Floridées, 1867, the sexuality of the red seaweeds was first demonstrated. In the works above named Bornet and Thuret had worked in collaboration. Bornet also published a number of important papers on algae including several on Nostochineae. His most important work on lichens was Recherches sur les Gonidies des Lichens, 1873, an important contribution in support of the algo-fungal nature of lichens. While living at Antibes he became interested in the question of hybridization as illustrated by the native species of Cistus. His notes on this subject were edited by Gard and issued posthumously.

Bornet was elected a member of the Académie des Sciences in 1886, and he was an honorary member of many foreign societies. He was a person of great modesty, possessed of wide information on many subjects, and in conversation very witty and sprightly. For many years his house on the Quai de la Tournelle, opposite Notre Dame, was the resort of botanists from all parts of the world.

W. G. Farlow.

GEORGE JARVIS BRUSH (1831–1912)

Fellow in Class II, Section 1, 1871.

George Jarvis Brush, the distinguished mineralogist and educator, was born in Brooklyn, New York, on December 15th, 1831. He was the seventh in line of descent from Thomas Brush, one of the early settlers of Long Island. The father of Mr. Brush was Jarvis Brush, and his mother, Sarah Keeler; the father was a successful commission and importing merchant. He retired from active business while still a young man, having accumulated a sufficient fortune, and at the same time (1835) moved his family to Danbury, Connecticut, where they lived until 1841. He then returned to Brooklyn.

His son's early education was received in private schools. When fifteen, he was sent to the school of Mr. Theodore S. Gold in West Cornwall, Connecticut. Although he remained here for only six months, the period appears to have had a strong influence on his subsequent career. Mr. Gold was an inspiring teacher and an enthusiastic naturalist, being especially interested in mineralogy, and aroused in young Brush an interest in this subject, which was to bear rich fruit after years.

It was intended that the boy should follow in the footsteps of his father and become a business man. Accordingly he next took a position in a mercantile house in Maiden Lane, New York City, where he remained for about two years. A serious illness made it advisable that he give up the close confinement of the mercantile life and it was decided that he should become a farmer. This led to his coming to New Haven to attend the lectures of Professors John P. Norton, and Benjamin Silliman, Jr., in Agricultural and Practical Chemistry at Yale College. His name appears in the college catalogue for 1848, as a member of the second class in the "School of Applied Chemistry." In 1852, he went to Louisville, Kentucky, as assistant to Professor Benjamin Silliman, who was instructor in Chemistry and Toxicology in the Medical Department of Louisville University. He remained there until the spring of 1852. During this period, in the spring and summer of 1851, he travelled in Europe in a party headed by the elder Professor Silliman. In 1852 he was granted a special examination at Yale College, made necessary by his absence, and at the commencement of that year, he was given the newly established degree of Ph.B. He was thus a member of the first class graduated from the Scientific Department of that Institution; a department that he was destined to afterwards develop into the Sheffield Scientific School. It is worthy of note that this first class of fourteen members four afterwards became prominent in Science.

He spent the next college year, 1852–1853, as assistant in Chemistry to Professor J. Lawrence Smith. Here he made the acquaintance of William Barton Rogers, who was then teaching there. It is suggestive that these two men, who were later to direct two of our great scientific schools, were thus thrown together at an early period of their lives. It was while he was at the University of Virginia that, in association with Professor Smith, he published his first mineralogical papers, entitled, "A Re-examination of American Minerals." This work showed at once his ability as a scientific investigator and his interest in mineralogy. It also led him to feel the necessity of further scientific training and study, and accordingly in November of 1853 he sailed for Germany. Here he spent the years 1854 and 1855, first at Munich studying with Leibig, von Kobell, and Pettenhofer, and later at the Mining School at Frieberg, Saxony. In 1855 he was elected Professor of Metallurgy in the Sheffield Scientific School of Yale and in order to fit himself more fully for this position he spent another year abroad studying at the Royal School of Mines in London, and visiting the principal mines and smelting works in Great Britain, and on the continent. He entered upon his duties at Yale in January, 1857. In 1864 his chair was broadened to include mineralogy, and later, in 1871, it was finally limited to the latter subject.

He long acted as secretary and treasurer of the Scientific School, and in 1872 he was made its director and served in this capacity until 1898, or through a period of twenty-four years. Although at this time he resigned his active administrative duties he continued to serve as treasurer and secretary to the board of trustees until 1900, when he gave up the duties of secretary, becoming President of the Board. He gave up the treasurership in 1904, but remained president until the end, presiding at the Annual Meeting in November, 1911. After a brief period of failing health, owing to a heart trouble, which first appeared in the spring of 1911, he passed quietly away on February 6th, 1912.

In 1864 he was married to Harriet Silliman Trumbull, who died in 1910. Three daughters were born to them.

As a scientist Professor Brush's name is closely associated with mineralogy. He showed a keen interest in this subject even as a boy when he collected minerals with Mr. Gold, and it was always the branch of science that interested him most. He was among the first in this country to apply refined methods of chemical analyses to the study of minerals, and his work was the fore-runner of the great amount of skilful and valuable work later carried on in the Sheffield laboratory by Brush's distinguished colleague and successor as Professor of Mineralogy, S. L. Penfield. The results of his researches made a lasting impression on the development of mineralogical science, and the effects of his teaching were carried by his many students throughout the land. Besides numerous papers relating to separate minerals and to mineral localities, he published in 1874 a "Manual of Determinative Mineralogy" patterned after the German tables of von Kobell. A later edition appeared in 1878. This book was later enlarged and extended by Professor Penfield, and under the joint names of Brush & Penfield is today the great standard work on determinative mineralogy. He made many contributions to the System of Mineralogy by James D. Dana. Of the ten supplements to the fourth edition he prepared the eighth, ninth and tenth. He rendered most important assistance to Professor Dana in the preparation of the fifth edition of this great work, and the first appendix to the last edition was written by him.

He was also associate editor of the American Journal of Science from 1863 to 1879.

The mineral collection which was gotten together by Professor Brush during his long life is one of the most representative and best known collections in the world. It was finally given by him to the Sheffield Scientific School with an endowment for its upkeep and extension.

Although widely known as a mineralogist, and as a successful teacher, his greatest services to mankind were rendered in connection with his directorship of the Sheffield Scientific School, whose development may quite properly be called his life work. Professor Brush is to be counted among the small number of men who foresaw with an almost prophetic vision the great importance which scientific training, a side of education to which little enough attention was paid at the time when he was a young man, must have in the development of the country's industrial growth. He graduated from Yale at a time when science was little esteemed, particularly in its relations to everyday affairs. Education was largely along classical lines. He resumed his connection with the scientific department of Yale when it was still a very small and weak affair. It needed wise nursing and financial help. He was a great addition to its small group of able and self-sacrificing teachers, bringing to it, as he did, not only his native ability as a teacher, his personal enthusiasm, but also the exceptional training and experiences he had acquired in Europe. He also possessed, fortunately for the school, a practical knowledge of business methods and great administrative ability. In addition, he possessed to a rare degree that charm of manner, which won the friendship and confidence of all, not only for himself but for the great enterprise with which he was connected. Of vital importance to the growth of the school was adequate financial support. This he was extraordinarily successful in getting and to his wise and skilful handling of the funds given to the school, largely through his efforts, its success and phenomenal growth were in no small measure due. The esteem that his business ability was held in, is testified to by the fact that he was for many years a director of the Jackson Iron Company, of Lake Superior, and for several years a director of the New York, New Haven & Hartford Railroad.

He was a member of many learned societies, among them the National Academy of Sciences, the American Academy of Arts and Sciences, an honorary member of the Mineralogical Society of England, a foreign member of the Geological Society of Edinburgh, of the Royal Bavarian Academy of Sciences of Munich. He was president of the American Association for the Advancement of Science in 1881. He received the degree of Doctor of Laws from Harvard University in 1886.

George Jarvis Brush will always occupy one of the foremost places in the scientific and educational history of the country.

C. H. WARREN.

THOMAS JONATHAN BURRILL (1839–1916).

Fellow in Class II, Section 2, 1915.

Thomas Jonathan Burrill was born at Pittsfield, Mass., April 25, 1839. When nine years old his family removed to Stephenson County, Illinois. He attended the Rockport High School and graduated from the State Normal University near Bloomington in 1865. In 1868 he was appointed assistant professor of botany in the University of Illinois and in 1870 he was made professor of botany which position he held until his retirement forty-four years later. He died April 14, 1916, at Urbana, Illinois.

Prof. Burrill's scientific reputation is based mainly on his work on fungi, especially those which cause diseases of plants. In a paper read at the meeting of the A. A. A. S. in 1880 he stated that the fire-blight of the pear-tree and the twig-blight of the apple-tree were due to the same cause, a species of Bacteriaceae to which in a more detailed paper in 1882 he gave the name of *Micrococcus amylovorus*. This was practically the first paper published in this country on the bacterial diseases of plants, a subject which has subsequently been treated by many writers. Burrill also published valuable papers on the fungus diseases of other cultivated plants. The Parasitic Fungi of Illinois in two parts, 1885 and 1887, was an excellent treatise on the Uredineae and